MICRO-DEVAL ABRASION OF FINE AGGREGATE LS-619-R30_____
D7428-15 _____

APPARATUS:

1. Micro-Deval Abrasion Machine, Jar rolling mill running at 100 ± 5 rpm? _____
2. Containers, stainless steel Micro-Deval abrasion jars:
   (a) Jars with rubber ring in rotary locking cover, 5L capacity? _____
   (b) External diameter is 194 - 202mm? _____
   (c) Internal height is 170 - 177mm? _____
   (d) Outside surface smooth (no observable ridges or indentations)? _____
   (e) Inside surface smooth (no observable ridges or indentations)? _____
   (f) Containers and Control Aggregate monitored to assess need for conditioning with silica sand _____
3. Abrasion charge, stainless steel balls:
   (a) diameter is 9.5 ± 0.5mm? _____
   (b) charge is 1250 ± 5g of balls? _____
4. Sieves of following sizes:
   LS-619:
   2.36mm?_____ 0.600mm?_____ 0.150mm?_____
   1.18mm?_____ 0.300mm?_____ 0.075mm?_____
   In addition, a 6.7mm sieve to separate the steel balls from the aggregate when washing? _____

or

   A23.2-23A:
   2.5mm? _____ 0.630mm?_____ 0.160mm?_____
   1.25mm?_____ 0.315mm?_____ 0.080mm?_____
   In addition, a 5mm sieve to separate the steel balls from the aggregate when washing? _____
5. Oven, capable of maintaining 110 ± 5°C? _____
6. Balance, accurate to 0.1g? _____
7. Control Aggregate, a supply of standard Sutherland Sand ? _____

COMMENTS:

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PROCEDURE

1. Sample obtained by LS-600 or A23.2-???
2. Sample prepared from material passing 4.75mm (5mm)?
3. Sample reduced by splitting to 725 ± 25g?
4. Sample washed on 75 µm (80 µm) sieve by LS-601 (A23.2-5A)?
5. Sample dried to a constant mass at 110 ± 5°C?
6. Test sample prepared to 2.8 FM using grading:

LS-619:

4.75 to 2.36mm: 50g?	_____	0.600 to 0.300mm: 100g?	_____
2.36 tp 1.18mm: 125g?	_____	0.300 tp 0.150mm: 75g?	_____
1.18 tp 0.600mm: 125g?	_____	0.150 tp 0.075mm: 25g?	_____

Note: where testing has shown the loss on a material to be less than 17%, test sample may be reduced by splitting to 500 ± 5g

or

A23.2-23A:

?? to 2.5mm: 50g?	_____	0.630 to 0.315mm: 100g?	_____
2.5 to 1.25mm: 125g?	_____	0.315 to 0.160mm: 75g?	_____
1.25 to 0.630mm: 125g?	_____	0.160 to 0.080mm: 25g?	_____

7. Test sample saturated in tap water for 24 ± 4 hours
8. Pour off excess water and place in Micro-Deval container with 750 ± 25ML tap water?
9. 1250 ± 5g steel balls added?
10. Machine run at 100 ± 5 rpm for 15 minutes ± 10 seconds?
11. Balls removed from sample by passing through a 6.7 mm sieve?
12. Sample washed on a 75 µm in accordance with LS-601?
13. Retained 75 µm oven dried to a constant mass at 110 ± 5°C?
14. Sample weighed to nearest 0.1g?
15. Per cent loss calculated to nearest 0.1%?

Use of Laboratory Control Aggregate

1. Laboratory has a supply of control aggregate? Source: Sutherland Sand
2. Control sample tested every 10 samples or at least every week when samples tested?
3. Control sample mean loss is 16.8%, range is 15.2 to 18.4%?
4. Control chart showing data for last 20 samples of reference material?

Mean for last 20 samples _____
Low for last 20 samples _____
High for last 20 samples _____

COMMENTS: